UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/727,726 | 12/04/2003 | Pekka Kuure | 800.0283.U1(US) | 6915 |

29683 7590 05/25/2010
HARRINGTON & SMITH
4 RESEARCH DRIVE, Suite 202
SHELTON, CT 06484-6212

| EXAMINER | |
|---|---|
| SMITH, JOSHUA Y | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2477 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 05/25/2010 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/727,726 | KUURE ET AL. | |
| | Examiner | Art Unit | |
| | JOSHUA SMITH | 2477 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 March 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-10,12-22 and 24-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8-10,12-20,22 and 24-28* is/are rejected.

7)☒ Claim(s) *6,7,21,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/29/2010 has been entered.

- **Claims 1-10, 12-22 and 24-30 are pending.**
- **Claims 11 and 23 are cancelled.**
- **Claims 1-5, 8-10, 12-20, 22 and 24-28 stand rejected.**
- **Claims 6, 7, 21, 29 and 30 are objected to.**

### *Claim Rejections - 35 USC § 101*

1. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claim 22** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 22 recites "A data storage medium encoded with software". The specification does not clearly state what a "data storage medium" may be. As a result, a "data storage medium" can include a signal, and a signal is non-statutory subject matter. Examiner suggests changing Claim 22 to include

***non-transitory***, so that Claim 22 recites ***A non-transitory data storage medium encoded with software***.

**Claims 24-30** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 24 recites "A computer readable medium encoded with a computer program executable to perform actions comprising". The specification does not clearly state what a "computer readable medium" may be. As a result, a "computer readable medium" can include a signal, and a signal is non-statutory subject matter. Examiner suggests changing Claims 24-30 to include ***non-transitory***, so that each of Claims 24-30 includes ***non-transitory computer readable medium***.

In addition, Claim 24 does not recite what is executing a computer program and performing actions. Examiner suggests changing Claim 24 to include ***by a processor***, so that Claim 24 includes ***a computer program executable by a processor to perform actions comprising***.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 12 and 13** are rejected under 35 U.S.C. 102(e) as being anticipated by Davidson (Patent No.: US 6,577,862 B1), hereafter referred to as Davidson.

3. **in regard to Claim 12**, Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise

algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (a control unit; and a memory including software, where the memory and the software are configured, with the control unit, to cause the apparatus to transmit post-speech packets on a packet data channel responsive to a packet indicating an end of speech samples, wherein a post-speech packet of the post-speech packets includes information intended for a user of a receiving terminal).

**In regard to Claim 13**, Davidson teaches in column 8, lines 49-59, and in FIG. 4, upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received, thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (cause an apparatus to perform signaling after receiving a last speech sample packet).

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Simard et al. (Patent No.: US 6,940,826 B1) in view of Davidson (Patent No.: US 6,577,862 B1), hereafter respectively referred to as Simard and Davidson.

**In regard to Claim 1**, Simard teaches in column 2, lines 4-27, and in column 6, lines 44-65, and in column 7, lines 36-39, and in FIGS. 2, 3A, 4, and 5, FIG. 4 illustrates a simplified block diagram that illustrates a packet-based central conference bridge that could be coupled to a packet-based network for enabling voice conferences between numerous sources of media signals, which can be packet-based terminals, and this conference bridge preferably replaces within FIG. 2, the conference bridge depicted within FIG. 3A (see item 30, FIGS. 2 and 3A), and FIG. 5 is a flow chart that depicts the steps performed by the packet receipt block 50 (FIG. 4) and the energy detection and talker selection block 60 (FIG. 4) (a core network, controlling a flow of data packets by a server function in a core network).

Simard teaches in column 6, lines 44-65, and in column 9, lines 12-48, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could

transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (a dedicated channel comprising both an uplink and a plurality of downlinks, controlling a flow of data packets by a server function, keeping up a dedicated channel after a last speech packet is sent downlink from a core network by sending post-speech packets for a time of such duration that a new uplink can be established utilizing a downlink from a core network, and wherein a server function transmits post-speech packets to a plurality of downlinks responsive to a packet indicating an end of speech samples from an uplink).

Simard fails to teach communicating in a cellular communications network, and a server function in a core network transmits post-speech packets to a downlink responsive to a packet indicating an end of speech samples from an uplink and wherein a post-speech packet includes information intended for a user of a receiving terminal.

Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network

SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (communicating in a cellular communications network through a dedicated channel comprising an uplink and a downlink, controlling a flow of data packets by a server function in a core network, keeping up a dedicated channel after a last speech sample is sent downlink from a core network by sending post-speech packets, where a server function in a core network transmits post-speech packets to a downlink responsive to a packet indicating an end of speech samples from an uplink and wherein a post-speech packet includes information intended for a user of a receiving terminal).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized

within, and Davidson provides a method in which SID messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**In regard to Claim 24**, Simard teaches in column 2, lines 4-27, and in column 6, lines 44-65, and in column 7, lines 36-39, and in FIGS. 2, 3A, 4, and 5, FIG. 4 illustrates a simplified block diagram that illustrates a packet-based central conference bridge that could be coupled to a packet-based network for enabling voice conferences between numerous sources of media signals, which can be packet-based terminals, and this conference bridge preferably replaces within FIG. 2, the conference bridge depicted within FIG. 3A (see item 30, FIGS. 2 and 3A), and FIG. 5 is a flow chart that depicts the steps performed by the packet receipt block 50 (FIG. 4) and the energy detection and talker selection block 60 (FIG. 4) (a core network, controlling a flow of data packets by a server function in a core network).

Simard teaches in column 6, lines 44-65, and in column 9, lines 12-48, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (a dedicated channel comprising both an uplink and a plurality of downlinks, controlling a flow of data packets by a server function, keeping up a dedicated channel after a last speech packet is sent downlink from a core network by sending post-speech packets for a time of such

duration that a new uplink can be established utilizing a downlink from a core network, and transmitting post-speech packets to a plurality of downlinks after receiving a packet indicating an end of speech samples from an uplink).

Simard fails to teach communicating in a cellular communications network, and transmitting post-speech packets to a downlink after receiving a packet indicating an end of speech sample from an uplink, wherein a post-speech packet of post-speech packets includes information intended for a user of a receiving terminal connected to a dedicated channel.

Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in

GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (communicating in a cellular communications network, and transmitting post-speech packets to a downlink after receiving a packet indicating an end of speech sample from an uplink, wherein a post-speech packet of post-speech packets includes information intended for a user of a receiving terminal connected to a dedicated channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized within, and Davidson provides a method in which SID messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**Claims 2-5 and 25-28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Simard in view of Davidson, and further in view of Forssell et al. (Document Number: EP 1 006 695 A1), hereafter referred to as Forssell.

**In regard to Claim 2**, Simard teaches in column 6, lines 44-65, and in column 9, lines 22-25, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (server sending at least one post-speech packet downlink to receiving terminals).

Simard fails to teach a server determining when the last speech sample packet is sent, and determining whether a terminal taking part in the session needs a new uplink, establishing new uplink.

Forssell teaches in paragraph [0042], lines 40-41, and in paragraph [0044], lines 53-54, a network is informed at the end of an active period, on whether a passive period follows the active period or if the connection can be released, on an uplink channel, after one mobile station starts to transmit, the other mobile stations may be reallocated to other channels", and in lines 56-57, "on a downlink channel, after one mobile station starts to transmit, the other mobile stations may be reallocated to other channels (a server determining when the last speech sample packet is sent, and determining whether a terminal taking part in the session needs a new uplink, establishing new uplink).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Forssell in the teachings of Simard in view of

Davidson since Forssell provides a method of efficient channel allocation to mobile stations GPRS system, which can be introduced into the system of Simard in view of Davidson to allow implementation in a GPRS system and to provide conferencing capabilities in a GPRS system and expanding the capabilities of the system of Simard in view of Davidson so that conferencing services can be provided in a GPRS system.

**In regard to Claim 3**, as discussed in the rejection of Claim 1, Simard in view of Davidson teaches receiving terminals.

Simard fails to teach a receiving terminal additionally signals the user of the terminal after receiving the last speech sample packet.

Davidson teaches in column 8, lines 49-59, and in FIG. 4, upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received, thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (a receiving terminal additionally signals the user of the terminal after receiving a last speech sample packet).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized within, and Davidson provides a method in which SID messages may be utilized for

transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**In regard to Claim 4**, as discussed in the rejection of Claim 1, Simard in view of Davidson teaches post speech packets.

Simard fails to teach post-speech packets are sent downlink 5 to 10 times at intervals of 500 ms at most.

Davidson teaches in column 9, lines 14-18, GSM will produce a network SID for every 480 ms of continuous silence (post-speech packets are sent downlink 5 to 10 times at intervals of 500 ms at most).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized within, and Davidson provides a method in which SID messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**In regard to Claim 5**, as discussed in the rejection of Claim 1, Simard in view of Davidson teaches post-speech packets.

Simard fails to teach after the last post-speech packet the downlink used is released after a delay specific to the cellular network.

Forssell teaches in paragraph [0043], lines 49-51,a network may use a timer function for determining whether a passive period follows the active period or if the connection can be released, and when a predetermined time of inactive data transfer has passed, the TBF is released (after the last packet the downlink used is released after a delay specific to the cellular network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Forssell in the teachings of Simard in view of Davidson since Forssell provides a method of efficient channel allocation to mobile stations GPRS system, which can be introduced into the system of Simard in view of Davidson to allow implementation in a GPRS system and to provide conferencing capabilities in a GPRS system and expanding the capabilities of the system of Simard in view of Davidson so that conferencing services can be provided in a GPRS system.

**In regard to Claim 25**, Simard teaches in column 6, lines 44-65, and in column 9, lines 22-25, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (sending at least one post-speech packet downlink to receiving terminals).

Simard fails to teach determining when the last speech sample packet is sent, and determining whether a receiving terminal taking part in the session needs a new uplink, establishing new uplink.

Forssell teaches in paragraph [0042], lines 40-41, and in paragraph [0044], lines 53-54, a network is informed at the end of an active period, on whether a passive period follows the active period or if the connection can be released, on an uplink channel, after one mobile station starts to transmit, the other mobile stations may be reallocated to other channels", and in lines 56-57, "on a downlink channel, after one mobile station starts to transmit, the other mobile stations may be reallocated to other channels (determining when the last speech sample packet is sent, and determining whether a receiving terminal taking part in the session needs a new uplink, establishing new uplink).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Forssell in the teachings of Simard in view of Davidson since Forssell provides a method of efficient channel allocation to mobile stations GPRS system, which can be introduced into the system of Simard in view of Davidson to allow implementation in a GPRS system and to provide conferencing capabilities in a GPRS system and expanding the capabilities of the system of Simard in view of Davidson so that conferencing services can be provided in a GPRS system.

**In regard to Claim 26**, as discussed in the rejection of Claim 24, Simard in view of Davidson teaches receiving terminals.

Simard fails to teach a receiving terminal additionally signals the user of the terminal after receiving the last speech sample packet.

Davidson teaches in column 8, lines 49-59, and in FIG. 4, upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received, thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (a receiving terminal additionally signals the user of the terminal after receiving a last speech sample packet).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized within, and Davidson provides a method in which SID messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**In regard to Claim 27**, as discussed in the rejection of Claim 24, Simard in view of Davidson teaches post speech packets.

Simard fails to teach post-speech packets are sent downlink 5 to 10 times at intervals of 500 ms at most.

Davidson teaches in column 9, lines 14-18, GSM will produce a network SID for every 480 ms of continuous silence (post-speech packets are sent downlink 5 to 10 times at intervals of 500 ms at most).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Simard since Davidson provides a cellular system in which the method of Simard may be utilized within, and Davidson provides a method in which SID messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Simard to allow reduced processing requirements for communicating comfort noise in the system of Simard.

**In regard to Claim 28**, as discussed in the rejection of Claim 24, Simard in view of Davidson teaches post-speech packets.

Simard fails to teach after the last post-speech packet the downlink used is released after a delay specific to the cellular network.

Forssell teaches in paragraph [0043], lines 49-51,a network may use a timer function for determining whether a passive period follows the active period or if the connection can be released, and when a predetermined time of inactive data transfer has passed, the TBF is released (after the last packet the downlink used is released after a delay specific to the cellular network).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Forssell in the teachings of Simard in view of

Davidson since Forssell provides a method of efficient channel allocation to mobile stations GPRS system, which can be introduced into the system of Simard in view of Davidson to allow implementation in a GPRS system and to provide conferencing capabilities in a GPRS system and expanding the capabilities of the system of Simard in view of Davidson so that conferencing services can be provided in a GPRS system.

**Claims 8-10 and 15-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson in view of Simard.

**In regard to Claim 8**, Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250

(FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (a control unit; and a memory including software, where the memory and the software are configured, with the control unit, to cause the apparatus at least to receive a last speech sample packet from an uplink in a cellular communications network; and prolong an existence of a downlink by sending post-speech packets to a downlink, and wherein the post-speech packets are sent to a downlink responsive to a packet indicating an end of speech sample from the uplink and wherein a the post-speech packet includes information intended for a user of a terminal connected to an apparatus).

Davidson fails to teach prolonging an existence of downlinks by sending post-speech packets to a plurality of downlinks for a time of such duration that a new uplink can be established from a receiving terminal, wherein the post-speech packets are sent to a plurality of downlinks.

Simard teaches in column 2, lines 4-27, and in column 6, lines 44-65, and in column 7, lines 36-39, and in column 9, lines 12-48, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, FIG. 4 illustrates a simplified block diagram that illustrates a

packet-based central conference bridge that could be coupled to a packet-based network for enabling voice conferences between numerous sources of media signals, which can be packet-based terminals, and this conference bridge preferably replaces within FIG. 2, the conference bridge depicted within FIG. 3A (see item 30, FIGS. 2 and 3A), and FIG. 5 is a flow chart that depicts the steps performed by the packet receipt block 50 (FIG. 4) and the energy detection and talker selection block 60 (FIG. 4), and a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (receive a last speech sample packet from an uplink, prolong an existence of downlinks by sending post-speech packets to a plurality of downlinks for a time of such duration that at least one new uplink can be established from a receiving terminal, wherein the post-speech packets are sent to the plurality of downlinks responsive to a packet indicating an end of speech sample from the uplink).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Simard in the teachings of Davidson since Simard teaches a system that provides a reduction in transcoding, latency, and required signal processing power for a conference session (see Simard, column 3, line 65 to column 4, line 15), which can be introduced into the system of Davidson to allow conferencing among multiple terminals and to provide such conferencing service with reduced network resource requirements.

**In regard to Claim 9**, as discussed in the rejection of Claim 8, Davidson in view of Simard teaches a memory and software and post speech packets.

Davidson fails to explicitly teach prolonging an existence of downlinks by sending post-speech packets to a terminal connected to an apparatus.

Simard teaches in column 6, lines 44-65, and in column 9, lines 22-25, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (prolong an existence of downlinks by sending post-speech packets to a terminal connected to an apparatus).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Simard in the teachings of Davidson since Simard teaches a system that provides a reduction in transcoding, latency, and required signal processing power for a conference session (see Simard, column 3, line 65 to column 4, line 15), which can be introduced into the system of Davidson to allow conferencing among multiple terminals and to provide such conferencing service with reduced network resource requirements.

**In regard to Claim 10**, Davidson teaches in column 9, lines 14-18, GSM will produce a network SID for every 480 ms of continuous silence (post-speech packets are sent downlink 5 to 10 times at intervals of 500 ms at most).

**In regard to Claim 15**, Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise

step 470 (FIG. 4) (a cellular communications network, a memory including software, where the memory and the software are configured, with the a network element, to maintain a dedicated channel between a sending terminal and a receiving terminal by sending, responsive to a last speech packet from the sending terminal, post speech packets to the receiving terminal for a time of duration, wherein a post-speech packet of the post-speech packets includes information intended for a user of a terminal connected to a dedicated channel).

Davidson fails to teach maintaining a dedicated channel between a sending terminal and a plurality of receiving terminals by sending, responsive to a last speech packet from the sending terminal, post speech packets to the plurality of receiving terminals for a time of such duration that a new dedicated channel can be established utilizing an earlier dedicated channel.

Simard teaches in column 2, lines 4-27, and in column 6, lines 44-65, and in column 7, lines 36-39, and in column 9, lines 12-48, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, FIG. 4 illustrates a simplified block diagram that illustrates a packet-based central conference bridge that could be coupled to a packet-based network for enabling voice conferences between numerous sources of media signals, which can be packet-based terminals, and this conference bridge preferably replaces within FIG. 2, the conference bridge depicted within FIG. 3A (see item 30, FIGS. 2 and 3A), and FIG. 5 is a flow chart that depicts the steps performed by the packet receipt block 50 (FIG. 4) and the energy detection and talker selection block 60 (FIG. 4), and a talker selection algorithm could transmit empty voice data to terminals within a voice

conference when there are no talkers selected in order to maintain continuous packet transmission (maintain a dedicated channel between a sending terminal and a plurality of receiving terminals by sending, responsive to a last speech packet from the sending terminal, post speech packets to the plurality of receiving terminals for a time of such duration that a new dedicated channel can be established utilizing an earlier dedicated channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Simard in the teachings of Davidson since Simard teaches a system that provides a reduction in transcoding, latency, and required signal processing power for a conference session (see Simard, column 3, line 65 to column 4, line 15), which can be introduced into the system of Davidson to allow conferencing among multiple terminals and to provide such conferencing service with reduced network resource requirements.

**In regard to Claim 16**, as discussed in the rejection of Claim 15, Davidson in view of Simard teaches a cellular communications network and post-speech packets.

Davidson fails to explicitly teach a dedicated channel in a network is maintained by sending post-speech packets, after a last speech packet transmitted, to a terminal connected to a dedicated channel.

Simard teaches in column 2, lines 4-27, and in column 6, lines 44-65, and in column 7, lines 36-39, and in column 9, lines 12-48, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, FIG. 4 illustrates a simplified block diagram that illustrates a

packet-based central conference bridge that could be coupled to a packet-based network for enabling voice conferences between numerous sources of media signals, which can be packet-based terminals, and this conference bridge preferably replaces within FIG. 2, the conference bridge depicted within FIG. 3A (see item 30, FIGS. 2 and 3A), and FIG. 5 is a flow chart that depicts the steps performed by the packet receipt block 50 (FIG. 4) and the energy detection and talker selection block 60 (FIG. 4), and a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (a dedicated channel in a network is maintained by sending post-speech packets, after a last speech packet transmitted, to a terminal connected to a dedicated channel).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Simard in the teachings of Davidson since Simard teaches a system that provides a reduction in transcoding, latency, and required signal processing power for a conference session (see Simard, column 3, line 65 to column 4, line 15), which can be introduced into the system of Davidson to allow conferencing among multiple terminals and to provide such conferencing service with reduced network resource requirements.

**In regard to Claim 17-19**, Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice

transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) (a network element for sending post-speech packets is a server operating in the network, a server sending post-speech packets is a router server) receives from an uplink communication channel a SID frame (an element for sending post-speech packets is a terminal ending its transmission), and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise, and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received, thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (a network element for sending post-speech packets is a server operating in the network, a server sending post-speech packets is a

router server, an element for sending post-speech packets is a terminal ending its transmission).

**In regard to Claim 20**, Davidson teaches in column 9, lines 14-18, GSM will produce a network SID for every 480 ms of continuous silence (sending 5 to 10 post-speech packets at intervals of 500 ms at most).

**Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson in view of Kajizaki et al. (Pub. No.: US 2001/0055317 A1), hereafter referred to as Kajizaki.

**In regard to Claim 14**, as discussed in the rejection of Claim 12, Davidson teaches post-speech packets.

Forssell fails to teach appending packets together.

Kajizaki teaches in the abstract, when a routing processing unit detects the transmission of a number of packets addressed to the same destination a combining unit assembles a combined packet (where the received post-speech packets are appended to speech sample packets).

It would have been obvious to one skilled in the art at the time of the invention to adopt the packet combining of Kajizaki into the real time data network of Davidson since packets below a certain size can result in unacceptable overhead and inefficient link performance.

**Claim 22** is rejected under 35 U.S.C. 103(a) as being unpatentable over Forssell in view of Simard and Davidson.

**In regard to Claim 22**, Forssell teaches in paragraph [0042], lines 40-41, that "the network is informed at the end of an active period, on whether a passive period follows the active period", and, in paragraph [0044], lines 55-56, "on a downlink channel, after one mobile station starts to transmit, the other mobile stations may be reallocated to other channels", showing that a passive period can occur after an active period on an uplink channel and on a downlink channel, and a mobile station of the downlink channel can start transmitting on the channel (determining whether a receiving terminal taking part in a session needs a new uplink, and establishing an uplink).

Forssell further teaches in paragraph [0086], lines 40-42,47-49, "the processing of information in a telecommunication device takes place in an arrangement of processing capacity in the form of microprocessor(s) and memory in the form of memory circuits. Such arrangements are known as such from the technology of mobile stations and fixed network elements", and "On the network side, the features according to the invention can be implemented e.g. in the Packet Control Unit PCU", where "The packet control unit may be located e.g. in the ... Serving GPRS Support Node SGSN" (a data storage medium encoded with software readable by a data processing device for performing actions).

Forssell fails to teach determining when a last speech sample packet is sent uplink, sending a post-speech packet to a plurality of receiving terminals responsive to a last speech sample.

Simard teaches in column 6, lines 44-65, and in column 9, lines 22-25, and in column 10, lines 8-33, and in FIGS. 2, 3A, 4, and 5, a talker selection algorithm could transmit empty voice data to terminals within a voice conference when there are no talkers selected in order to maintain continuous packet transmission (determining when a last speech sample packet is sent uplink, sending a post-speech packet to a plurality of receiving terminals responsive to a last speech sample).

It would have been obvious to one of ordinary skill in the art at the time of the invention to adopt the invention of Simard in the teachings of Forssell since Simard provides a system for voice conferences within packet-based communication networks that provides a reduction in transcoding, latency, and/or required signal processing power (see Simard, column 3, line 65 to column 4, line 15, and column 5, lines 53-59), which can be introduced into the packet-based network of Forssell to allow efficient voice conferencing to users.

Forssell fails to teach a post-speech packet includes information intended for a user of a receiving terminal.

Davidson teaches in column 5, lines 14-65, and in column 6, lines 42-54, and in column 6, line 55 to column 7, line 40, and in column 8, lines 49-59, and in column 9, lines 5-23, and in FIGS. 2-4, unidirectional voice transmissions, and a mobile phone 210 (FIG. 2) communicates across communications channel 212 (FIG. 2) by sending or receiving data units in time slots via an antenna 214 (FIG. 2) which is coupled to base station (BS) 220 (FIG. 2), a BS, along with a transmission control node (TCN) (which will be a Base Station Controller (BSC) in GSM) are known as a Base Station

Subsystem (BSS) 220 (FIG. 2), and in a receive silence step 310 (FIG. 3), a BSS 200 (FIG. 2) receives from an uplink communication channel a SID frame, and a network SID is somewhat analogous to a SID in the uplink communication channel, a network SID contains the information needed by the destination TCN for the destination TCN to produce comfort noise (information intended for a user of a receiving terminal), and in the send SID step 340 (FIG. 3), the network SID algorithm 300 (FIG. 3) builds a SID packet or a SID cell, and sends it across the core transport network 250 (FIG. 2), and in GSM, will produce a network SID for every 480 ms of continuous silence, and a network SID will be received in a receive network SID step 450 (FIG. 4), and upon receiving the network SID, the comfort noise algorithm will produce comfort noise depending on the type of network SID message received (information intended for a user of a receiving terminal), thus, the comfort noise algorithm 400 (FIG. 4) detects the network SID type in a network SID type query 460 (FIG. 4), then, for example, if the network SID is a control command, then the comfort noise algorithm 400 will produce a predefined comfort noise in a generate comfort noise step 470 (FIG. 4) (determining when a last speech sample packet is sent uplink and sending a post-speech packet to a receiving terminal responsive to a last speech sample packet, wherein a post-speech packet includes information intended for a user of a receiving terminal).

It would have been obvious to one of ordinary skill in the art at the time of the invention to introduce the teachings of Davidson in the teachings of Forssell in view of Simard since Davidson provides a cellular system in which the method of Forssell in view of Simard may be utilized within, and Davidson provides a method in which SID

messages may be utilized for transmitting comfort noise across a network and that has reduced processing requirements, which can be introduced into the system of Forssell in view of Simard to allow reduced processing requirements for communicating comfort noise in the system of Forssell in view of Simard.

### *Allowable Subject Matter*

**Claims 6 and 7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Claim 21** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Claims 29 and 30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### *Response to Arguments*

**I. Arguments for Claim Rejections under 35 USC § 103.**

Applicant's arguments with respect to claims 1-5, 8-10, 12-20, 22 and 24-28 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSHUA SMITH whose telephone number is 571-270-1826. The examiner can normally be reached on Monday-Friday, 10:30am-7pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Joshua Smith
/J.S./
Patent Examiner
05-22-2010

/Gregory B Sefcheck/
Primary Examiner, Art Unit 2477

5-24-2010